

REVIEW OF MARINE RECREATIONAL FISHERIES STATISTICS SURVEY SUMMER FLOUNDER ESTIMATES AND DATA 2003 – New York and New Jersey

Summary

Preliminary estimates of summer flounder landings along the mid-Atlantic Coast for May/June produced by MRFSS (NOAA, NMFS), and projections of annual landings estimates produced by the Mid-Atlantic Fishery Management Council suggested that although the coastwide landings may not exceed the regulatory Total Allowable Landings (TAL) target set for the 2003 recreational fishery, it seemed likely that NY landings would exceed the state TAL considerably, and the NJ landings may exceed that state's TAL. These concerns lead to a request for a full review of MRFSS data, field sampling distributions, estimates of recreational fishery effort, and summer flounder catch statistics for NY and NJ for 2003, relative to recent years. Preliminary results of the investigation utilized only data collected during waves 3 & 4 (May-Aug.), but the investigation continued until all data were compiled and preliminary estimates were produced for the entire year. This report summarizes those findings.

A review of 2003 MRFSS summer flounder harvest estimates (harvest=A + B1 fish data types) and angler-intercept data did not reveal any significant errors that would cause errors in the estimates. Changes in summer flounder angler success rates, and harvest rates of those successful anglers in New York and New Jersey, apparently led to higher estimated harvests in 2003 in both the charter boat and private/rental boat sectors, relative to recent years. Shore-mode fishing was included in the overall harvest review but the directed-trip and catch-per-trip analyses (cpue) only considered boat modes because very few summer flounder are landed from shore (2.4% of 2003 landings in NY; 4.5% of 2003 landings in NJ). Wave 6 (Nov/Dec) was not included in this review because only one summer flounder was reported caught in each of NY and NJ in 2003 and none were reported caught in 2002, and no anglers reported targeting summer flounder in wave 6 in either 2002 or 2003 in NY and NJ.

The review of raw fish and interview data led to further investigation of three interviews from 2003. One interview was obtained from NJ in wave 3 (May/Jun sampling period) from a charter or party boat. The angler had 22 summer flounder available (field interviewer identified and counted these fish) and reported he/she caught all of them; the creel limit in NJ was 8 so this was unusually high. An inspection of the actual interview form led to the conclusion that the correct number recorded by the interviewer was only 2 fish, and the hand-writing was sloppy enough that the key entry clerk misinterpreted it. This correct value is unlikely to affect the overall catch or harvest estimates significantly, but will be corrected before final estimates for 2003 are run. The second interview to be investigated was obtained in NY during wave 4 (Jul/Aug) from a private boat angler who had 14 available summer flounder. The interview record indicated all the fish were caught by one angler but, like the previous record, the creel limit was only 7 fish so this was unusual. Re-examination of the interview form and discussion with the interviewer led to the correction of the number of anglers who landed these fish being corrected to 2. This correction also is unlikely to affect the estimates significantly but will be made before final estimates are run. The third interview to be investigated was obtained in NY in wave 4 from a charter or party boat angler who reported landing 10 summer flounder; these were filleted fish so identity and count was not made by the interviewer (only whole fish are examined, identified and counted by MRFSS field staff). The interviewer reported that he had questioned this count (over creel limit of 7 fish per angler per day) and the angler insisted they were all his fish and there were 10 summer flounder. This record, therefore, was accepted as is so there is no correction to be made. No other intercept data errors were detected during the review of summer flounder data from NY and NJ in 2003.

Intercept Sampling Distribution

New York and New Jersey are sampled using a random access-site selection program, stratified by weekend days and weekdays. A sampling site (public access fishing site, e.g. marina, launch ramp, fishing pier, breakwater, beach, etc.) is randomly selected and randomly assigned to a date with the day-type stratum. Site selections are weighted by the relative fishing activity estimated for each mode present and a mode is specified for each day of sampling (e.g. Private/Rental Boat sampling is selected for March 25 at ROOSEVELT MEMORIAL PARK). Through the use of stratified random sampling the access sites available should be sampled in an unbiased random way such that the resulting statistics will be representative of population parameters and unbiased.

The distribution of interviews obtained from successful fluke anglers in 2003 in New York suggests a fairly representative distribution of sampling effort within and among the coastal counties (Fig. 1). Although more sites were sampled in Suffolk county than either of the other NY counties, there were more access sites available and the cumulative fishing activity by county is higher. The distribution of successful fluke anglers suggests a reasonable and representative distribution of sampling effort within Suffolk and Nassau counties. Total sampling effort (number of interviews obtained) during 2003 was distributed across all New York coastal counties, but the majority of those interviews were obtained in Nassau and Suffolk counties (Table 1).

Table 1. Number of Intercepts by County (NY 2003)

County	Interviews
Bronx	35
Kings	268
Nassau	691
Queens	52
Richmond	120
Suffolk	3694
Westchester	158

Intercept Interview Summer Flounder Data

Intercept interview fish data (numbers examined, numbers reported landed, length and weight distributions and statistics) were reviewed for outliers or other 'tendencies' that may indicate erroneous measurement, recording, or transcription during initial key-entry of data and compilation into databases that are delivered to the NMFS. Any potential errors are investigated, first by comparison with the original hand-written interview form for correct transcription and key-entry (keystroke error and error in hand-writing are the most common errors detected at this stage), and then through an interview with the actual field interviewer in an attempt to recall any unusual or outstanding information that may have been observed or reported (also occasionally noted in margins of the interview form). These techniques generally lead to any potential corrections to fish data. During this review of the 2003 summer flounder data from NY and NJ only 2 additional interviews were corrected, from a total of only 3 interviews investigated. One interview obtained in wave 3, May/June, from a charter boat angler (PC mode) in NJ recorded 22 summer flounder landed by one angler, and examined and counted by the interviewer. This record was suspicious because the angler

creel limit was 8; investigation revealed sloppy hand-writing that was misinterpreted as 22 when in fact the count recorded was 2 (written '002' as required). Similarly, a private boat angler interview (PR mode) obtained in wave 4, July/August, from NY had 14 summer flounder landed by one angler although the creel limit was only 7 fluke per day. Investigation and revealed this was a key entry error and the correct number of anglers contributing to this grouped catch was 2. The third interview was also obtained in wave 4 from a NY angler from a party boat and involved the reported number of summer flounder landed as fillets, i.e. these were not whole fish so the identity and count was not verified by the interviewer. The angler reported, and insisted when the interviewer requested a verification of the count, that he had caught and harvested 10 summer flounder himself. Although this count exceeds the legal creel limit, because the interviewer asked the angler to verify this information and believed the angler to be credible, the data will remain unchanged.

Summer Flounder Weight data

Individual fish weight is the priority item to be measured by field staff after any available fish have been identified to species and counted. The mean, or average, weight calculated from all weights obtained per species in each sampling cell (state, year, wave, collapsed mode {shore, party/charter boat, private/rental boat}, area-fished {inland waters, state territorial sea, federal EEZ}) is used to calculate the total weight harvested, or landed, per cell (number landed x average weight = weight landed). If there are less than 2 weights obtained per cell then no variance of the mean can be calculated so the overall state, wave average (all modes and areas combined) is substituted and the total weight landed per cell is calculated. Therefore, the average weights and any substitution will affect the total landed weight estimates per species. Table 2 a & b tabulates the average weights per cell and indicates where state-level substitution of mean weight was used for 2002 and 2003 for both NY and NJ. No unusually large or small average weights were obvious, and relatively small proportions of total landings by weight were estimated using state-level substitution, most notably in shore and/or party/charter modes, which do not land the largest proportion of summer flounder. Although the number of cells with state-level weight substitution increased in 2003 relative to 2002 in NY, the total number of cells with summer flounder landings also increased, mostly in the EEZ area-fished stratum.

Table 2a. SUMMER FLOUNDER - Intercept WEIGHT statistics - NY & NJ 2002
(N = Number of fish weighed)

STATE NEW YORK

		FISHING AREA								
		STS			EEZ			INLAND		
		MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV
WAVE	FISHING MODE									
MAY/JUN	SH	1.03	4	0.519	.	.	.	1.54	5	0.336
	PC	3.10	1	.	.	.	.	.	.	.
	PR	0.92	16	0.215	.	.	.	1.21	110	0.509
JUL/AUG	SH	1.15	14	0.228	.	.	.	0.99	11	0.645
	PC	1.15	1	.	.	.	.	.	.	.
	PR	1.38	53	0.427	1.00	4	0.245	1.43	49	0.681
SEP/OCT	SH	1.20	1	.	.	.	.	0.96	4	0.048
	PR	1.09	5	0.213	.	.	.	.	.	.

STATE NEW JERSEY

		FISHING AREA								
		STS			EEZ			INLAND		
		MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV
WAVE	FISHING MODE									
MAY/JUN	SH	.	.	.	.	.	.	1.17	3	0.257
	PC	.	0	.	.	.	.	0.83	3	0.231
	PR	1.19	48	0.465	1.73	5	1.073	1.08	117	0.526
JUL/AUG	SH	.	0	.	.	.	.	0.80	2	0.000
	PC	.	.	.	0.70	1	.	0.70	1	.
	PR	1.00	96	0.451	1.08	73	0.399	1.08	190	0.530
SEP/OCT	SH	.	.	.	.	.	.	0.80	1	.
	PC	.	0	.	1.30	1	.	0.95	2	0.354
	PR	1.14	7	0.416	1.26	18	0.495	1.15	21	0.372

BOLD = No variance calculation possible, so mean weight from entire state, wave (all modes) substituted for calculation of total weight landed in this cell.

Table 2a. (continued) - HARVEST ESTIMATES - NY & NJ SUMMER FLOUNDER - 2002

STATE: NEW YORK

		AREA FISHED								
		STS			EEZ			INLAND		
		NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED
WAVE OF DATA	FISHING MODE									
MAR/APR	PR	.	.	.	.	.	.	0	.	.
MAY/JUN	SH	5,396	100.00	5,531	.	.	.	6,746	53.99	10,388
	PC	42,059	22.88	50,146	0	.	.	44,127	23.53	52,612
	PR	25,787	44.26	23,612	0	.	.	225,947	16.46	272,369
JUL/AUG	SH	32,552	29.43	37,318	.	.	.	27,654	47.23	27,403
	PC	41,725	18.20	55,428	503	100.00	668	2,011	61.66	2,671
	PR	97,662	20.68	134,700	18,730	53.47	18,730	87,842	26.26	125,757
SEP/OCT	SH	1,750	100.00	1,838	.	.	.	5,613	52.08	5,402
	PC	18,108	30.25	19,013	.	.	.	0	.	.
	PR	12,131	54.36	13,223	.	.	.	0	.	.

STATE: NEW JERSEY

		AREA FISHED								
		STS			EEZ			INLAND		
		NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED
WAVE OF DATA	FISHING MODE									
MAR/APR	PR	.	.	.	.	.	.	0	.	.
MAY/JUN	SH	2,014	100.00	2,266	.	.	.	8,058	61.37	9,401
	PC	10,136	34.01	11,403	2,816	53.42	3,167	2,252	50.28	1,877
	PR	107,621	19.01	128,024	22,563	45.29	39,034	195,547	15.42	211,007
JUL/AUG	SH	1,161	100.00	1,226	.	.	.	5,805	60.94	6,128
	PC	2,700	46.81	2,850	24,841	18.65	26,224	3,600	39.75	3,801
	PR	168,647	13.78	168,207	141,979	19.73	153,940	187,895	13.35	203,026
SEP/OCT	SH	0	.	.	.	.	.	4,336	70.72	5,104
	PC	1,284	119.34	1,511	2,475	62.36	2,913	1,284	65.51	1,220
	PR	26,686	27.12	30,308	35,627	33.85	44,830	29,550	30.09	34,124

BOLD = No variance calculation possible, so mean weight from entire state, wave (all modes) substituted for calculation of total weight landed in this cell.

Table 2b. SUMMER FLOUNDER - Intercept WEIGHT statistics - NY & NJ 2003
(N = Number of fish weighed)

STATE NEW YORK

		FISHING AREA								
		STS			EEZ			INLAND		
		MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV
WAVE	FISHING MODE									
MAR/APR	PR	.	.	.	.	.	.	.	0	.
MAY/JUN	SH	.	.	.	.	.	.	1.01	5	0.207
	PC	2.01	12	1.073	.	0	.	.	0	.
	PR	1.16	26	0.427	.	.	.	1.28	58	0.726
JUL/AUG	SH	1.02	7	0.178	.	.	.	.	.	.
	PC	1.09	26	0.266	1.62	7	0.200	0.99	114	0.278
	PR	1.33	85	0.575	1.23	9	0.277	1.06	106	0.417
SEP/OCT	SH	0.70	1	.	.	.	.	0.70	1	.
	PC	0.96	4	0.232	2.30	2	0.990	1.34	5	0.766
	PR	1.17	10	0.433	1.70	1	.	1.06	11	0.570

STATE NEW JERSEY

		FISHING AREA								
		STS			EEZ			INLAND		
		MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV	MEAN WGT (KG)	N	STD DEV
WAVE	FISHING MODE									
MAY/JUN	SH	0.97	7	0.628	.	.	.	1.28	4	0.250
	PC	.	0	.	0.97	5	0.192	1.07	12	0.559
	PR	1.16	36	0.603	1.08	6	0.502	1.02	327	0.384
JUL/AUG	SH	0.83	5	0.045	.	.	.	0.94	7	0.168
	PC	0.95	28	0.585	1.07	90	0.462	1.01	78	0.460
	PR	1.18	102	0.503	1.19	38	0.378	1.05	193	0.479
SEP/OCT	SH	.	.	.	.	.	.	0.80	2	0.141
	PC	1.13	4	0.340	1.38	11	0.758	.	0	.
	PR	1.03	8	0.271	1.58	13	0.646	1.15	40	0.685

BOLD = No variance calculation possible, so mean weight from entire state, wave (all modes) substituted for calculation of total weight landed in this cell.

Table 2b. (continued) - HARVEST ESTIMATES - NY & NJ SUMMER FLOUNDER - 2003

STATE: NEW YORK

WAVE OF DATA	FISHING MODE	AREA FISHED								
		STS			EEZ			INLAND		
		NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED
MAR/APR	PC	.	.	.	.	.	.	742	72.46	870
	PR	.	.	.	.	.	.	453	100.01	531
MAY/JUN	SH	1,558	100.00	2,059	.	.	.	9,351	58.82	9,444
	PC	74,027	19.33	149,041	4,004	47.09	5,289	72,690	20.03	96,022
	PR	132,345	20.03	153,520	26,068	48.88	34,436	274,229	16.39	350,115
JUL/AUG	SH	17,012	40.93	17,377	.	.	.	3,156	100.00	3,536
	PC	20,617	18.25	22,520	6,112	45.69	9,910	27,683	18.10	27,452
	PR	375,168	16.67	499,415	27,126	49.44	33,456	361,138	17.40	383,215
SEP/OCT	SH	4,757	58.40	5,654	.	.	.	1,586	100.01	1,885
	PC	6,929	31.79	6,669	5,598	58.88	12,875	8,056	89.67	10,795
	PR	30,935	30.73	36,039	1,132	102.78	1,345	29,024	27.36	30,871

STATE: NEW JERSEY

WAVE OF DATA	FISHING MODE	AREA FISHED								
		STS			EEZ			INLAND		
		NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED	NUMBER FISH HARVESTED (A+B1)	PSE	WEIGHT (KG) HARVESTED
MAY/JUN	SH	21,404	34.89	20,792	.	.	.	9,158	53.87	11,677
	PC	8,522	31.83	8,826	6,565	36.42	6,368	21,603	34.31	23,133
	PR	89,601	22.22	103,539	7,553	42.73	8,183	535,176	12.78	545,733
JUL/AUG	SH	11,268	47.76	9,353	.	.	.	21,898	40.92	20,490
	PC	18,139	21.47	17,200	32,702	20.32	34,846	23,474	29.70	23,805
	PR	254,680	16.10	300,872	146,730	23.05	174,145	366,901	12.25	386,196
SEP/OCT	SH	4,543	71.23	5,586	.	.	.	11,359	53.47	9,087
	PC	1,206	48.01	1,357	5,799	25.00	8,014	1,407	59.39	1,730
	PR	25,405	33.39	26,199	19,711	39.61	31,159	112,760	32.04	129,111

BOLD = No variance calculation possible, so mean weight from entire state, wave (all modes) substituted for calculation of total weight landed in this cell.

Coastal Household Telephone Survey – Distribution and Prevalence by County – New York

Table 3.

NEW YORK COASTAL HOUSEHOLD TELEPHONE SURVEY						
Year / County	MAY/JUNE		JULY/AUG		SEPT/OCT	
	% Fishing Households	total contacted	% Fishing Households	total contacted	% Fishing Households	total contacted
2000						
BRONX	0.56%	356	1.84%	599	0.94%	320
KINGS	2.62%	497	2.03%	839	1.35%	445
NASSAU-LI_WEST	5.99%	367	9.97%	622	5.74%	331
NEW YORK	1.25%	481	1.73%	807	1.39%	432
PUTNAM	5.00%	100	5.42%	166	1.12%	89
QUEENS	1.48%	474	3.25%	801	3.18%	440
RICHMOND	5.77%	208	5.70%	351	3.21%	187
ROCKLAND	1.20%	167	2.86%	280	3.33%	150
SUFFOLK-LI_EAST	10.75%	372	13.18%	622	14.76%	332
WESTCHESTER	2.52%	318	4.41%	544	3.14%	287
2001						
BRONX	2.01%	547	2.51%	918	1.53%	523
KINGS	1.98%	758	3.38%	1272	1.10%	727
NASSAU-LI_WEST	6.08%	559	8.50%	941	6.14%	554
NEW YORK	1.80%	721	1.55%	1228	1.14%	702
PUTNAM	1.35%	148	4.76%	252	2.72%	147
QUEENS	3.63%	717	3.79%	1215	1.73%	695
RICHMOND	3.15%	317	8.44%	533	5.52%	308
ROCKLAND	1.19%	253	1.39%	432	0.82%	245
SUFFOLK-LI_EAST	9.80%	561	13.86%	945	9.59%	542
WESTCHESTER	1.46%	480	3.06%	818	2.15%	465
2002						
BRONX			1.85%	1025	2.19%	502
KINGS			2.30%	1393	2.32%	690
NASSAU-LI_WEST			8.87%	981	7.09%	508
NEW YORK			0.87%	1266	1.09%	640
PUTNAM			2.60%	308	5.30%	132
QUEENS			2.99%	1340	2.54%	670
RICHMOND			3.59%	557	4.50%	289
ROCKLAND			2.43%	453	0.44%	226
SUFFOLK-LI_EAST			11.59%	958	11.57%	510
WESTCHESTER			2.89%	830	2.56%	429
2003						
BRONX	2.62%	534	2.23%	629	1.84%	488
KINGS	1.11%	720	2.44%	862	1.80%	668
NASSAU-LI_WEST	5.84%	514	9.77%	614	7.16%	475
NEW YORK	1.69%	650	1.78%	786	1.48%	610
PUTNAM	3.55%	141	2.98%	168	2.31%	130
QUEENS	2.92%	686	3.55%	818	2.70%	630
RICHMOND	6.58%	304	7.92%	366	6.71%	283
ROCKLAND	1.69%	236	2.48%	282	1.84%	217
SUFFOLK-LI_EAST	10.92%	531	13.11%	633	11.00%	491
WESTCHESTER	2.71%	442	3.75%	533	2.43%	411

The sample size, or number of coastal households contacted, for the Telephone Survey used to estimate recreational fishing effort is proportioned by sample wave and county within a year in proportion to the relative amount of saltwater fishing activity that occurs in each wave and county based on historical fishing patterns (Table 3.). In New York, the three counties of Nassau, Suffolk, and Richmond have the highest percentage of fishing households (at least one person went saltwater recreational fishing during the sample wave) by county and Nassau and Suffolk counties comprise the majority of Long Island, the general area of most fishing access sites in the state (see bolded counties in Table 3). During the four-year period of 2000 - 2003 these fishing prevalence rates, by county, are relatively stable in the May/June sample wave, but in Jul/Aug there is an increase in prevalence in 2003 relative to 2002 in all three counties. Although the increases are only +0.9% and +1.5% on Long Island when expanded by the total population of these counties the increase in fishing trips per household may be substantial. The 2003 prevalence rate in Richmond county in Jul/Aug was more than double that of 2002 (Table 3).

The number of trips per angler and trips per fishing household both increased in New York in 2003, relative to 2002, in Jul/Aug and Sep/Oct (see bold, Table 4). The number of anglers per household during these waves remained similar or nearly so between 2002 and 2003, and the overall prevalence rate in New York in Sep/Oct, 2003 was essentially the same as that for 2002.

Table 4. MRFSS Coastal Household Telephone Survey - Fishing Household Statistics

			Percent Fishing HH	Anglers Per Household	Trips Per Angler	Trips Per Household
State	Wave	Year				
NEW YORK	May/Jun	2001	3.48	1.54	5.52	9.14
		2003	3.83	1.53	5.89	9.27
	Jul/Aug	2001	5.03	1.66	6.62	11.84
		2002	3.98	1.77	6.23	11.05
		2003	4.96	1.72	7.44	13.81
	Sep/Oct	2001	3.16	1.65	6.67	11.57
		2002	3.87	1.49	5.40	8.44
		2003	3.88	1.68	5.62	9.64

Catch, Harvest, and Success Rate Estimates

During sampling waves 3-5 (May/Jun through Sep/Oct), the mean success rate (= % of intercepted trips with at least one summer flounder harvested; “% OF TRIPS WITH HRVST”, Tables 5a) in NY was higher in 2003 than in 2002. The average number of summer flounder landed (if at least one fluke was landed) was also higher in waves 3 & 4 in 2003 than in 2002 in NY. NJ did not produce similar increases in success rates; the wave 3 rate was higher in 2003 than in 2002, but the wave 4 rate was lower in 2003 and the rate in wave 5 was only slightly higher in 2003 than in 2002 (Table 5b). The average number harvested in 2003 in NJ increased only slightly in waves 3 & 4 and was essentially unchanged in wave 3. These factors coupled with the overall increases in angler effort (“Estimated Angler Trips”, Tables 5a & b) resulted in large increases in landings of summer flounder in both NY and NJ in 2003.

Table 5a. MRFSS TOTAL ESTIMATED CATCH OF SUMMER FLOUNDER IN WAVES 1 THROUGH 6

NEW YORK

YEAR	WAVE	TOTAL ESTIMATED CATCH (A+B1+B2)	% STD ERR	TOTAL ESTIMATED HARVEST (A+B1)	% STD ERR	ESTIMATED AVERAGE WEIGHT (KG)	NUMBER OF FISH WEIGHED	ESTIMATED ANGLER TRIPS	% OF TRIPS WITH CATCH	AVG NUMBER CAUGHT (IF>0)	% OF TRIPS WITH HRVST	AVG NUMBER LANDED (IF>0)
1999	MAR/APR	7,993	45.4	1,639	47.7	1.03	3	83,380	3.72	2.86	1.84	1.16
	MAY/JUN	2,217,304	14.9	441,866	15.7	1.06	85	870,120	39.47	6.13	21.37	2.25
	JUL/AUG	1,587,932	11.4	265,125	11.9	1.01	155	996,235	32.58	4.79	12.46	1.91
	SEP/OCT	206,895	18.5	51,010	23.9	0.80	17	630,732	14.41	2.35	5.27	1.58
	NOV/DEC	.	.	.	.	.	.	322,947	0.00	0.00	0.00	0.00
	ALL WAVES	4,020,124	9.4	759,640	10.1	1.02	260	2,903,414	26.24	5.10	11.88	2.06
2000	MAR/APR	11,329	75.5	0	.	.	0	241,897	2.51	2.00	0.00	0.00
	MAY/JUN	1,428,031	13.2	459,951	14.4	1.03	94	923,104	36.13	4.19	19.96	2.32
	JUL/AUG	3,617,381	7.7	1,122,946	9.1	1.02	229	2,084,335	38.36	4.48	22.63	2.33
	SEP/OCT	188,555	21.0	88,573	25.1	2.54	12	1,209,439	5.37	2.98	3.95	1.87
	NOV/DEC	.	.	.	.	.	.	186,488	0.00	0.00	0.00	0.00
	ALL WAVES	5,245,295	6.5	1,671,470	7.4	1.10	335	4,645,263	25.92	4.31	15.15	2.30
2001	MAR/APR	458	100.0	0	.	.	0	242,180	0.22	1.00	0.00	0.00
	MAY/JUN	2,305,781	11.5	362,163	13.7	1.32	168	1,194,695	37.53	5.17	15.68	1.73
	JUL/AUG	3,079,387	8.9	298,386	11.1	1.31	137	1,735,136	31.73	5.64	8.79	1.68
	SEP/OCT	538,198	14.1	39,076	22.7	1.17	14	1,152,986	13.07	3.61	2.36	1.47
	NOV/DEC	3,476	73.5	0	.	.	0	298,890	0.59	1.99	0.00	0.00
	ALL WAVES	5,927,300	6.6	699,625	8.6	1.31	319	4,623,887	24.91	5.19	7.94	1.69
2002	MAR/APR	1,625	78.5	0	.	.	0	148,248	0.76	1.50	0.00	0.00
	MAY/JUN	2,060,558	9.1	350,063	12.0	1.18	136	1,061,744	43.28	4.30	15.76	1.78
	JUL/AUG	2,246,557	8.6	308,678	12.0	1.30	132	1,398,462	37.76	4.33	12.66	1.61
	SEP/OCT	487,390	15.9	37,602	24.5	1.05	10	1,033,640	15.16	3.14	2.66	1.37
	NOV/DEC	.	.	.	.	.	.	475,848	0.00	0.00	0.00	0.00
	ALL WAVES	4,796,130	5.8	696,343	8.1	1.23	278	4,117,942	27.81	4.15	9.03	1.67
2003	MAR/APR	3,048	44.5	1,194	58.8	.	0	334,929	0.58	1.57	0.36	1.00
	MAY/JUN	2,408,591	9.0	594,272	9.7	1.35	101	1,133,959	38.45	5.71	21.42	2.34
	JUL/AUG	4,109,107	8.8	838,012	10.8	1.19	354	2,257,305	35.53	5.10	14.92	2.23
	SEP/OCT	662,684	13.5	91,768	17.3	1.20	35	1,275,139	16.21	3.26	4.91	1.36
	NOV/DEC	1,426	88.3	0	.	.	0	470,662	0.32	1.00	0.00	0.00
	ALL WAVES	7,184,857	6.0	1,525,246	7.1	1.25	490	5,471,993	26.46	5.01	11.76	2.18

Table 5b. MRFSS TOTAL ESTIMATED CATCH OF SUMMER FLOUNDER IN WAVES 1 THROUGH 6

NEW JERSEY

YEAR	WAVE	TOTAL ESTIMATED CATCH (A+B1+B2)	% STD ERR	TOTAL ESTIMATED HARVEST (A+B1)	% STD ERR	ESTIMATED AVERAGE WEIGHT (KG)	NUMBER OF FISH WEIGHED	ESTIMATED ANGLER TRIPS	% OF TRIPS WITH CATCH	AVG NUMBER CAUGHT (IF>0)	% OF TRIPS WITH HRVST	AVG NUMBER LANDED (IF>0)
1999	MAR/APR	5,037	46.8	0	.	.	0	163,622	2.13	1.48	0.00	0.00
	MAY/JUN	2,343,491	14.3	267,457	16.1	0.95	104	921,226	32.93	7.05	12.37	1.95
	JUL/AUG	7,251,808	7.2	1,059,638	8.7	0.93	479	1,679,805	57.95	6.93	24.24	2.15
	SEP/OCT	1,117,363	12.1	175,594	19.3	0.91	63	1,135,416	23.22	3.76	6.54	1.73
	NOV/DEC	5,484	45.6	0	.	.	0	924,655	0.40	1.50	0.00	0.00
	ALL WAVES	10,723,182	5.9	1,502,689	7.1	0.93	646	4,824,724	32.08	6.39	12.34	2.06
2000	MAR/APR	8,300	62.7	0	.	.	0	431,554	1.33	1.45	0.00	0.00
	MAY/JUN	3,637,895	8.8	1,149,107	12.1	0.85	238	1,585,508	43.35	4.43	24.26	2.43
	JUL/AUG	5,060,655	6.5	1,435,702	8.5	0.89	345	2,211,696	46.96	4.58	23.69	2.41
	SEP/OCT	1,574,072	10.9	438,001	13.8	0.98	125	1,551,189	25.44	3.89	12.62	2.08
	NOV/DEC	2,880	86.3	0	.	.	0	688,919	0.48	1.00	0.00	0.00
	ALL WAVES	10,283,803	4.8	3,022,809	6.4	0.89	708	6,468,866	32.92	4.39	17.07	2.36
2001	MAR/APR	3,947	53.5	0	.	.	0	589,235	0.80	1.00	0.00	0.00
	MAY/JUN	4,535,612	7.7	828,427	9.3	0.90	475	1,796,389	40.88	5.71	19.31	2.00
	JUL/AUG	7,215,389	5.2	1,129,089	9.2	0.95	646	2,692,034	48.44	5.43	19.33	1.93
	SEP/OCT	652,155	10.1	111,851	15.1	1.03	62	1,636,551	11.74	3.45	3.81	1.81
	NOV/DEC	6,456	44.9	867	100.1	1.22	1	769,993	0.93	1.00	0.12	1.00
	ALL WAVES	12,413,559	4.2	2,070,234	6.3	0.93	1,184	7,484,202	29.96	5.33	12.43	1.95
2002	MAR/APR	850	100.0	0	.	.	0	329,599	0.27	1.00	0.00	0.00
	MAY/JUN	1,586,802	8.6	351,007	10.9	1.16	176	1,471,096	25.47	3.93	11.74	1.82
	JUL/AUG	2,980,519	6.7	536,628	8.3	1.05	363	1,306,841	44.53	4.80	18.55	1.84
	SEP/OCT	623,145	10.6	101,243	16.9	1.19	50	1,496,175	14.95	2.88	4.22	1.65
	NOV/DEC	2,446	58.6	0	.	.	0	804,894	0.31	1.00	0.00	0.00
	ALL WAVES	5,193,763	4.8	988,878	6.2	1.10	589	5,408,604	21.88	4.15	8.84	1.81
2003	MAR/APR	.	.	.	.	.	.	339,428	0.00	0.00	0.00	0.00
	MAY/JUN	2,397,104	8.8	699,583	10.3	1.04	397	1,660,078	32.93	4.25	18.38	2.07
	JUL/AUG	4,211,094	6.0	875,792	8.1	1.10	541	2,155,182	40.43	4.55	17.57	1.97
	SEP/OCT	859,043	10.5	183,457	21.2	1.17	78	1,741,036	15.02	2.90	5.00	1.64
	NOV/DEC	175	100.0	0	.	.	0	756,468	0.03	1.00	0.00	0.00
	ALL WAVES	7,467,417	4.6	1,758,832	6.2	1.09	1,016	6,652,192	25.25	4.20	11.59	1.97

Directed Effort (Recreational fishing trips targeting or catching summer flounder)

Directed trip analyses indicated that in New York, a greater number of party charter boat trips targeted summer flounder in 2003 than in 2002, however the percentage of total trips that targeted summer flounder was similar in both years (~64%, Table 6a). This proportion of trips targeting summer flounder was higher than the directed trip proportions of 2000 and 2001, and the number of party charter boat trips directed at summer flounder showed an increasing trend over the four years in New York (Table 6a). NJ party charter boats did not follow the same trends, varying in total number and proportion of trips targeting summer flounder annually during the four-year period (Table 6a & b).

Private boat trips targeting summer flounder followed a similar pattern of increases in proportion of total trips in NY from 2000 to 2003, but the annual numbers of trips targeting summer flounder were relatively similar for 2000-2002, then increased sharply in 2003 (Table 6c). Private boat trips targeting summer flounder in NJ during this period varied in annual number of trips and proportion of total that targeted summer flounder (Table 6c & d).

Directed Trip Catch Rates (CPUE of trips targeting summer flounder)

Catch-per-Unit-Effort, or CPUE, is here used to mean number of fish harvested (A + B1 catch only) per angler trip on trips targeting summer flounder (defined as those angler trips that identified summer flounder as a target or caught a summer flounder). The majority of summer flounder landed were caught in inland waters or the state territorial seas (ocean, ≤ 3 miles from shore) so this discussion will focus on the CPUEs from those two areas. In 2003 in NY the CPUE for waves 3 and 4 from these two fishing areas were higher than the respective CPUEs in 2002 for private/rental boats (Table 6d). This mode of fishing lands the majority of summer flounder in NY and NJ, annually. The 2003 CPUEs in party charter boat fishing for summer flounder in NY were higher in waves 3 and 4 in both fishing areas also (Table 6b). Wave 5 (Sep/Oct) CPUEs in both fishing modes, both areas, and both states were variable in 2003, relative to 2002; some values were up and some were down, however, this wave does not produce very large landings relative to waves 3 and 4 (Tables 6b & d). The observed increases in directed trip CPUE further suggests real increases in summer flounder angling success which supports the increased landings estimates of summer flounder in 2003.

Table 6a. Summer flounder directed effort analyses - Estimated directed angler effort & total effort.

NEW YORK / NEW JERSEY ESTIMATED DIRECTED ANGLER-TRIPS FOR SUMMER FLOUNDER
 PARTY/CHARTER BOATS ONLY, ALL AREAS, Waves 3-5
 State Summarized Estimates and Intercepted Trip Sample Sizes

2000

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	262,980	293	174,397	197	437,377	490
NEW YORK	141,256	175	129,021	163	270,277	338
Subregion Total	404,236	468	303,418	360	707,654	828

2001

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	359,192	855	186,569	437	545,761	1,292
NEW YORK	118,422	219	161,188	311	279,610	530
Subregion Total	477,614	1,074	347,757	748	825,371	1,822

2002

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	200,515	390	80,388	194	280,903	584
NEW YORK	95,968	168	169,846	292	265,814	460
Subregion Total	296,483	558	250,234	486	546,717	1,044

2003

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	247,652	1,109	128,213	578	375,865	1,687
NEW YORK	114,855	376	201,225	751	316,080	1,127
Subregion Total	362,507	1,485	329,438	1,329	691,945	2,814

Table 6b. Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2000 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PARTY/CHARTER BOATS ONLY, ALL AREAS, Waves 3-5, 2000

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	11,072	0.750	8,304	12
		OCEAN (> 3 MI)	6,459	1.143	7,382	7
		INLAND	39,674	1.628	64,586	43
		Wave Total	57,205		80,272	62
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	28,766	0.853	24,536	34
		OCEAN (> 3 MI)	23,140	1.889	43,709	27
		INLAND	24,854	1.414	35,138	29
		Wave Total	76,760		103,383	90
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	14,937	0.833	12,448	18
		OCEAN (> 3 MI)	25,495	1.444	36,826	27
		Wave Total	40,432		49,274	45
	State Total		174,397		232,929	197
NEW YORK	WAVE OF DATA	AREA OF FISHING				
	MAY/JUN	OCEAN (<= 3 MI)	19,996	3.281	65,612	32
		INLAND	42,492	1.235	52,490	68
		Wave Total	62,488		118,102	100
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	54,533	2.800	152,692	50
		OCEAN (> 3 MI)	2,181	8.000	17,448	2
		INLAND	6,544	0.500	3,272	6
		Wave Total	63,258		173,412	58
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	3,275	3.800	12,445	5
		Wave Total	3,275	3.800	12,445	5
	State Total		129,021		303,959	163
Subregion Total			303,418		536,888	360

Table 6b (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2001 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PARTY/CHARTER BOATS ONLY, ALL AREAS, Waves 3-5, 2001

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	2,957	0.250	739	8
		OCEAN (> 3 MI)	19,219	0.865	16,632	52
		INLAND	25,300	1.304	33,000	69
		Wave Total	47,476		50,371	129
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	24,196	1.019	24,644	54
		OCEAN (> 3 MI)	54,869	0.814	44,639	118
		INLAND	34,008	0.595	20,221	74
		Wave Total	113,073		89,504	246
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	18,983	0.867	16,452	45
		OCEAN (> 3 MI)	3,797	1.222	4,641	9
		INLAND	3,240	0.500	1,620	8
		Wave Total	26,020		22,713	62
	State Total		186,569		162,588	437
NEW YORK	WAVE OF DATA	AREA OF FISHING				
	MAY/JUN	OCEAN (<= 3 MI)	24,029	1.059	25,442	51
		INLAND	45,703	0.639	29,212	97
		Wave Total	69,732		54,654	148
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	26,275	0.739	19,421	46
		OCEAN (> 3 MI)	4,817	1.750	8,430	8
		INLAND	28,297	0.426	12,041	47
		Wave Total	59,389		39,892	101
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	21,723	0.619	13,448	42
		INLAND	10,344	0.150	1,552	20
		Wave Total	32,067		15,000	62
	State Total		161,188		109,546	311
Subregion Total			347,757		272,134	748

Table 6b (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2002 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PARTY/CHARTER BOATS ONLY, ALL AREAS, Waves 3-5, 2002

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	12,388	0.818	10,136	22
		OCEAN (> 3 MI)	5,068	0.556	2,816	9
		INLAND	12,388	0.182	2,252	22
		Wave Total	29,844		15,204	53
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	8,400	0.321	2,700	28
		OCEAN (> 3 MI)	23,101	1.078	24,901	77
		INLAND	2,700	1.333	3,600	9
	Wave Total	34,201		31,201	114	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	642	2.000	1,284	1
		OCEAN (> 3 MI)	5,136	0.500	2,568	8
		INLAND	10,565	0.111	1,174	18
	Wave Total	16,343		5,026	27	
	State Total		80,388		51,431	194
NEW YORK	WAVE OF DATA	AREA OF FISHING				
	MAY/JUN	OCEAN (<= 3 MI)	36,658	1.109	40,657	55
		OCEAN (> 3 MI)	689	0.000	0	1
		INLAND	42,748	1.032	44,127	62
		Wave Total	80,095		84,784	118
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	57,309	0.728	41,725	114
		OCEAN (> 3 MI)	1,005	0.500	503	2
		INLAND	15,081	0.133	2,011	30
	Wave Total	73,395		44,239	146	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	13,435	1.348	18,108	23
		INLAND	2,921	0.000	0	5
		Wave Total	16,356		18,108	28
	State Total		169,846		147,131	292
Subregion Total			250,234		198,562	486

Table 6b (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2003 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PARTY/CHARTER BOATS ONLY, ALL AREAS, Waves 3-5, 2003

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	11,546	0.738	8,522	42
		OCEAN (> 3 MI)	11,229	0.585	6,573	41
		INLAND	16,075	1.000	16,075	59
		Wave Total	38,850		31,170	142
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	20,060	0.904	18,139	94
		OCEAN (> 3 MI)	29,469	1.108	32,649	139
		INLAND	20,341	1.048	21,310	105
		Wave Total	69,870		72,098	338
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	2,814	0.429	1,206	14
		OCEAN (> 3 MI)	14,066	0.408	5,745	71
		INLAND	2,613	0.538	1,407	13
		Wave Total	19,493		8,358	98
	State Total		128,213		111,626	578
NEW YORK	MAY/JUN	AREA OF FISHING				
		OCEAN (<= 3 MI)	48,558	1.452	70,497	166
		OCEAN (> 3 MI)	4,620	0.867	4,004	15
		INLAND	37,269	1.950	72,690	121
		Wave Total	90,447		147,191	302
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	25,244	0.825	20,815	114
		OCEAN (> 3 MI)	6,177	1.000	6,177	35
		INLAND	51,735	0.535	27,683	228
		Wave Total	83,156		54,675	377
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	14,873	0.474	7,045	38
		OCEAN (> 3 MI)	5,241	1.214	6,364	14
		INLAND	7,508	1.050	7,883	20
		Wave Total	27,622		21,292	72
	State Total		201,225		223,158	751
Subregion Total			329,438		334,784	1,329

Table 6c. Summer flounder directed effort analyses - Estimated directed angler effort & total effort.

NEW YORK / NEW JERSEY ESTIMATED DIRECTED ANGLER-TRIPS FOR SUMMER FLOUNDER
PRIVATE/RENTAL BOATS ONLY, ALL AREAS, Waves 3-5
State Summarized Estimates and Intercepted Trip Sample Sizes

2000

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	1,154,071	649	2,030,127	1,142	3,184,198	1,791
NEW YORK	1,258,413	673	1,065,192	631	2,323,605	1,304
Subregion Total	2,412,484	1,322	3,095,319	1,773	5,507,803	3,095

2001

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	1,506,576	1,639	1,981,934	2,097	3,488,510	3,736
NEW YORK	1,045,154	972	1,118,742	1,142	2,163,896	2,114
Subregion Total	2,551,730	2,611	3,100,676	3,239	5,652,406	5,850

2002

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	1,208,381	1,327	1,190,878	1,444	2,399,259	2,771
NEW YORK	795,697	470	1,016,721	720	1,812,418	1,190
Subregion Total	2,004,078	1,797	2,207,599	2,164	4,211,677	3,961

2003

	SUMMER FLOUNDER Trip?				Total Trips	
	Other		Directed			
	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips	Estimated Trips	Intercepted Trips
	STATE OF INTERCEPT					
NEW JERSEY	1,195,408	1,183	1,779,194	1,784	2,974,602	2,967
NEW YORK	1,058,267	844	1,586,395	1,211	2,644,662	2,055
Subregion Total	2,253,675	2,027	3,365,589	2,995	5,619,264	5,022

Table 6d. Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2000 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PRIVATE/RENTAL BOATS ONLY, ALL AREAS, Waves 3-5, 2000

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	224,135	1.144	256,426	118
		OCEAN (> 3 MI)	71,748	1.868	134,055	38
		INLAND	402,256	1.547	622,358	212
		Wave Total	698,139		1,012,839	368
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	400,533	0.923	369,591	233
		OCEAN (> 3 MI)	122,228	1.906	232,979	71
		INLAND	442,458	1.316	582,063	262
		Wave Total	965,219		1,184,633	566
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	178,741	0.760	135,843	100
		OCEAN (> 3 MI)	110,066	1.281	141,022	64
		INLAND	77,962	0.705	54,928	44
		Wave Total	366,769		331,793	208
	State Total		2,030,127		2,529,265	1,142
NEW YORK	MAY/JUN	AREA OF FISHING				
		OCEAN (<= 3 MI)	28,331	0.800	22,665	15
		OCEAN (> 3 MI)	1,889	1.000	1,889	1
		INLAND	264,790	0.916	242,570	143
		Wave Total	295,010		267,124	159
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	101,971	2.508	255,712	65
		OCEAN (> 3 MI)	38,783	1.583	61,406	24
		INLAND	538,762	0.898	483,626	342
		Wave Total	679,516		800,744	431
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	46,757	1.429	66,796	21
		OCEAN (> 3 MI)	4,453	0.000	0	2
		INLAND	39,456	0.167	6,576	18
		Wave Total	90,666		73,372	41
State Total		1,065,192		1,141,240	631	
Subregion Total			3,095,319		3,670,505	1,773

Table 6d (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2001 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PRIVATE/RENTAL BOATS ONLY, ALL AREAS, Waves 3-5, 2001

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	149,688	0.571	85,405	163
		OCEAN (> 3 MI)	29,272	0.938	27,442	32
		INLAND	511,059	1.188	607,109	564
		Wave Total	690,019		719,956	759
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	353,708	0.701	247,795	354
		OCEAN (> 3 MI)	116,338	1.016	118,245	122
		INLAND	740,794	0.798	591,100	772
	Wave Total	1,210,840		957,140	1,248	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	38,714	1.116	43,216	43
		OCEAN (> 3 MI)	9,027	2.000	18,054	10
		INLAND	33,334	0.784	26,127	37
	Wave Total	81,075		87,397	90	
	State Total		1,981,934		1,764,493	2,097
NEW YORK	WAVE OF DATA	AREA OF FISHING				
	MAY/JUN	OCEAN (<= 3 MI)	37,003	0.567	20,968	30
		INLAND	419,466	0.589	247,099	348
		Wave Total	456,469		268,067	378
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	103,314	0.563	58,114	128
		OCEAN (> 3 MI)	22,859	1.393	31,839	28
		INLAND	417,750	0.404	168,878	517
	Wave Total	543,923		258,831	673	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	36,415	0.250	9,104	28
		OCEAN (> 3 MI)	6,503	0.000	0	5
		INLAND	75,432	0.172	13,006	58
	Wave Total	118,350		22,110	91	
	State Total		1,118,742		549,008	1,142
Subregion Total			3,100,676		2,313,501	3,239

Table 6d (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2002 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PRIVATE/RENTAL BOATS ONLY, ALL AREAS, Waves 3-5, 2002

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	123,351	0.841	103,771	126
		OCEAN (> 3 MI)	24,673	0.920	22,699	25
		INLAND	330,259	0.607	200,337	333
		Wave Total	478,283		326,807	484
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	183,630	0.887	162,920	266
		OCEAN (> 3 MI)	116,458	1.166	135,753	169
		INLAND	267,990	0.698	187,035	384
	Wave Total	568,078		485,708	819	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	44,355	0.605	26,819	43
		OCEAN (> 3 MI)	20,362	1.750	35,634	20
		INLAND	79,800	0.372	29,669	78
	Wave Total	144,517		92,122	141	
	State Total		1,190,878		904,637	1,444
NEW YORK	WAVE OF DATA	AREA OF FISHING				
	MAY/JUN	OCEAN (<= 3 MI)	51,619	0.475	24,519	40
		OCEAN (> 3 MI)	1,357	0.000	0	1
		INLAND	431,138	0.519	223,553	324
		Wave Total	484,114		248,072	365
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	133,784	0.730	97,662	100
		OCEAN (> 3 MI)	18,009	1.000	18,009	14
		INLAND	237,669	0.363	86,188	182
	Wave Total	389,462		201,859	296	
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	123,736	0.098	12,131	51
		INLAND	19,409	0.000	0	8
		Wave Total	143,145		12,131	59
	State Total		1,016,721		462,062	720
Subregion Total			2,207,599		1,366,699	2,164

Table 6d (continued). Summer flounder directed effort analyses - estimated directed angler effort, harvest per trip, and number of directed trips intercepted.

2003 NEW YORK / NEW JERSEY Directed Trips & CPUE for SUMMER FLOUNDER and CATCH = Harvest (A + B1)
 CPUE calculated from Intercepted Directed Trips
 SUMMER FLOUNDER: NEW YORK / NEW JERSEY, PRIVATE/RENTAL BOATS ONLY, ALL AREAS, Waves 3-5, 2003

			Estimated Directed Trips	CPUE	Estimated Number of Fish Caught	Interce- pted Trips
STATE	WAVE OF DATA	AREA OF FISHING				
NEW JERSEY	MAY/JUN	OCEAN (<= 3 MI)	103,312	0.869	89,795	107
		OCEAN (> 3 MI)	16,248	0.471	7,646	17
		INLAND	512,924	1.036	531,610	549
		Wave Total	632,484		629,051	673
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	250,018	0.992	247,969	244
		OCEAN (> 3 MI)	84,156	1.655	139,258	84
		INLAND	560,955	0.641	359,507	543
		Wave Total	895,129		746,734	871
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	65,332	0.360	23,534	62
		OCEAN (> 3 MI)	42,658	0.528	22,543	41
		INLAND	143,591	0.781	112,148	137
		Wave Total	251,581		158,225	240
	State Total		1,779,194		1,534,010	1,784
NEW YORK	MAY/JUN	AREA OF FISHING				
		OCEAN (<= 3 MI)	144,376	0.917	132,345	144
		OCEAN (> 3 MI)	6,016	4.333	26,069	6
		INLAND	300,809	0.891	268,029	312
		Wave Total	451,201		426,443	462
	JUL/AUG	AREA OF FISHING				
		OCEAN (<= 3 MI)	341,489	1.076	367,384	211
		OCEAN (> 3 MI)	24,735	1.063	26,281	16
		INLAND	542,209	0.652	353,331	333
		Wave Total	908,433		746,996	560
	SEP/OCT	AREA OF FISHING				
		OCEAN (<= 3 MI)	66,389	0.473	31,384	55
		OCEAN (> 3 MI)	4,828	0.250	1,207	4
		INLAND	155,544	0.192	29,912	130
		Wave Total	226,761		62,503	189
State Total		1,586,395		1,235,942	1,211	
Subregion Total			3,365,589		2,769,952	2,995

Figure 1. The distribution of NY access sites where interviews were obtained from successful fluke anglers in 2003.



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